Metal Science and Heat Treatment 2016, pages 1-4

Optimization of Heat Treatment Modes of Steel 4Kh5MFS for Metal Conduits of Hot-Chamber Pressure Casting Machines According to Results of Endurance Tests in Molten TsAM-4-1

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Abstract

© 2016 Springer Science+Business Media New YorkAmethod and a scheme of a device for testing the fatigue endurance and dissolution of die steels in cast melts are presented. The laws of dissolution and the endurance of steel 4Kh5MFS in molten TsAM-4-1 are considered as a function of the mode of the heat treatment, the temperature of the melt, and the torsional deformations. The results of the metallographic studies are used to determine the dominant kinds of fracture of steel 4Kh5MFS in the process of fatigue testing in molten TsAM-4-1 upon variation of the amplitude of the torsional deformation and of the temperature of the melt.

http://dx.doi.org/10.1007/s11041-016-9944-4